THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

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VETERINARY INSPECTORS AT AGRICULTURAL SHOWS.

In our extracts will be found some questions and answers from the reports of Parliamentary proceedings. Mr. Lawson asked Mr. Chaplin, the Minister of Agriculture, if it were true that the veterinary inspectors of the Board acted as officials for the Royal and the Yorkshire Agricultural Societies, and if such action was advantageous to the department. Mr. Chaplin replied that the inspectors did act for these Societies, that the time occupied by them in doing so was deducted from their annual holiday, and that their connection with the Societies was beneficial in that it enabled them to keep in touch with leading agriculturists. We think Mr. Chaplin's answer will be accepted by veterinarians as conclusive and obvious. The connection between the larger Agricultural Societies and the work of the Board is such that a close relationship between the officers of each must be of great advantage to the State, but it does not follow that it must always be of advantage to the Societies. It so happens that the present inspectors are personally well qualified for their dual parts, and that there is nothing in the duties of either office—of inspectors to the Board of Agriculture or of veterinary advisers to the Agricultural Societies—which clash with the proper performance of both.

PRINCIPAL, R.V.C., AND BOARD OF AGRICULTURE.

Mr. Lawson asked a further question—Whether the Chief Veterinary adviser to the Board was also Principal of the Royal Veterinary College, and whether this was with the sanction of the Minister? To this Mr. Chaplin gave a more guarded answer. He said that he was aware of the fact, but that the arrangement existed when he took over the charge of the department, and he had seen no reason to object to it. Mr. Chaplin, of course, had only in view the welfare of the Board of Agriculture, and so far we agree with him that Professor Brown's official position at the College was advantageous to the Board. It supplies the Board with a place, and first-class opportunities for carrying on experiments and making investigations into the diseases coming under their cognisance. The question, however, raises another consideration, viz., whether the dual appointment is good for the Veterinary College? With this Mr. Chaplin has nothing to do, and perhaps it may be said that our profession has also no concern with the arrangements of a teaching school. To this we demur. The teaching of veterinary students is of vital importance to the veterinary profession, and the efficiency of a school must depend largely on the influence of its Principal. An efficient school must have a staff of skilled teachers, these teachers must possess an *esprit de corps* conducive to harmonious working, and the course of study must be organised and controlled by one clear head and one strong hand. That Professor Brown possesses all the attributes of a first-class Principal we are willing to admit. but it is a serious question whether even his powers are great enough to do justice to two such important positions as he now holds. This question we are unable to answer, and even if it were answered in the negative no improvement could be made till the Governors were able to find someone equally able to take command. Is there such a man?

SCIENTIFIC TRAINING—CONTAGIOUS DISEASES.

What is the meaning of the word "scientific"? This is an important question, with a very practical bearing on the progress of the profession. We are advised to become scientific men, to read scientific books, and to bring before our veterinary associations scientific papers. If by *Science* is meant exact knowledge and by *Scientific* is meant pertaining to exactness, we accept the advice without a murmur, but if the suggestion be only that we should constantly aim at trying to fit in some theory to account for the facts and phenomena presented to us, reject it most positively. To be well versed in all the latest theories, to read all the latest books, is good only when performed by a critical mind. To attempt to force analogies between things the similarity of which is only hypothetical is not scientific. To adopt as conclusive theories and statements made by writers we know nothing of is simply foolish. Correct observation, critical thought, and a slow acceptance of the results obtained by modern experimenters will lead most surely, if more slowly, to the possesion of exact knowledge, and the desire to be exact will rightly earn the title scientific. It has recently been said that we should be doing great service if we could improve the scientific aspect of our profession, "especially in assimilating the diseases of animals with those of man." How we may *assimilate* these diseases we do not quite understand. When there is any analogy between a disease of man and a disease of a lower animal let us by all means recognise it, but let us also be careful not to force an analogy where no similarity exists. Let us also object to base our pathology on crude theories attached to some human disease; and endeavour ourselves to elucidate by examination and experiment the maladies which come under our notice. When we understand the ills of animals will be the time to compare them with the ills of man; but to institute comparisons between two conditions neither of which we know much about is unscientific and the surest way to remain ignorant of both. The "assimilation of the diseases of animals to those of man" may well be left to the Local Government Board, whose officials seem determined to trace all the contagious maladies affecting human beings to eruptive diseases on cows teats. There is a beautiful simplicity in this, but it remains to be seen how much exact knowledge it is based on. At present the Veterinary profession has a large sphere of usefulness without trespassing upon the domain of the zealous but misguided Medical Officer. We may safely neglect "the assimilation of diseases etc."

CASES AND ARTICLES.

ANTISEPTIC SURGERY,
Treatment of a deep-seated Abscess.

By F. Raymond, F.R.C.V.S.

The following case may be of interest to your readers.

Horse No. 65 was admitted on the 5th of May very lame. There was a hard, diffused, not particularly painful swelling just behind the spine of the scapula, and the muscles in the neighbourhood were somewhat atrophied. I knew this horse had received a punctured wound some time previously which had healed, and I had my doubts as to whether an abscess was forming on or in the bone, or whether I had perhaps to deal with a tumour. The ordinary treatment would have been to blister repeatedly until something happened, but it occurred to me that I might save a deal of time if I took a leaf out of Lawson Tait's book and made an exploratory incision. I prepared my instruments including a large trephine for anything that might turn up. The swelling was very hard and measured about 10 inches by 8. The patient was chloroformed; the skin was washed with soap and water and then bathed with Perchloride of Mercury solution 1-2000. I made an incision 6 inches long from a little above the most prominent part downwards; the knife travelled through a quantity of very hard fibrous tissue until it reached a depth of an inch-and-a-half or two inches and then a quantity of healthy pus welled up. I had in fact tapped a deeply seated abscess. I ascertained that the bone was healthy. The cavity was thoroughly washed out with a Reid's pump with perchloride solution. My intention was to wait until the blood had ceased to flow and then sew up the wound, but as this cessation seemed unlikely to happen for some time I deferred the rest of the operation till the morrow, so after a final cleansing with perchloride sol. a piece of sterilized boric wool was placed lightly over the wound and the animal was allowed to get up. Next day, the wound was again thoroughly washed with soap and water, and cavity and neighbourhood was irrigated with perchloride solution 1-2000, and carefully dried with sterilized sponges. With a sterilized glass syringe I inserted a solution of Iodoform in Ether. I then proceeded to sew up the wound with silk sutures which had been soaked in perchloride sol.; each stitch was at an interval of a quarter of an inch from the other and was drawn tight. I sewed a sterilized drainage tube into the cavity of the abscess. The whole wound was closed tightly except the small opening for each end of the tube. I then took a very long needle and suture wire which had been sterilized and inserted six very deep sutures at intervals of about an inch. The wire sutures were inserted and brought out about an inch on either side of the silk ones and went about an inch deep. These were also drawn pretty tight. The little blood was washed off with perchloride sol. and the wound dried with sterilized sponges, some more Iodoform in ether was gently injected up the drainage tube, all the sutures &c.. were dusted with iodoform, a thin piece of sterilized boric lint was laid over the wound and the animal got up.

From beginning to end of the healing process there was only a little serum discharged. The drainage tube was removed on the third day and the aperture left was injected with iodoform in ether from a sterilized glass syringe. The sutures were dusted with iodoform daily. In a week the wire sutures became slack, owing to the absorbtion of the walls of the abscess; they were removed and the punctures dusted with iodoform. They closed next day and the horse went to exercise, the wound being healed and all the silk stitches being in position just as on the first day. After two days exercise I removed all the silk sutures and dusted the parts with Iodoform. Next day the animal went out cured.

Remarks: By this procedure I ascertained at once the nature of the disease. I believe I sent the horse to work at least a fortnight earlier than by the old method. By the old method there would have been repeated blisters, then the abscess (if it were one and if it came to a head) would have been lanced, then the cavity would have been under treatment some time. But in view of the great thickness and tenacity of the fibrous layer over the abscess it is just possible that the latter would not have come to a head; it might have dissected and drivelled its way downwards till it reached the joint.

It may be objected that this treatment is very troublesome and I am willing to admit it is, but the repeated dressings and blisterings, the lancing and re-dressing which otherwise would have been adopted, must have caused infinitely more trouble in the long run, and greater suffering to the horse. Another advantage was the immediate confirmation of diagnosis, as when I operated the nature of the disease could not be diagnosed with any certainty. I have had at least one case of Sarcoma, which began in a very similar way from a similar cause.

A PECULIAR NEUROTIC AFFECTION IN BOVINES.

By J. Randolph Welsby, M.R.C.V.S., Longton.

Your invitation to readers in a recent issue to quote cases which would be of interest to the profession I now take advantage of.

Since my residence here with Mr. Stevenson I have come in contact with a peculiar disease affecting cattle which it has not been my good fortune to meet elsewhere, and which my principal affirms he has not seen in any other portion of his practice, save this one district. He has been intimate with the affection for the last eight or nine years, and has had very indifferent success in remedial measures.

This affection is no respecter of age or sex, but

seems to attack the bovine species solely, immunity being reserved for horses and sheep, the proof of this latter distinction being that these animals graze on the same pastures and are exempted. The spring of the year and early summer after heavy rains seem to be the particular period for its ravages, and the animals affected belong to a good class of farmers, whose farms are situate in a long valley which is irrigated by a small stream. History is by no means fertile, and the symptoms exhibited are characterised by their sudden seizure, and the rapidity with which they pass through their different phases.

The animals are noticed in the first instance to be stiff in their movements, grinding their teeth, champing their jaws, and salivated. On an approach being made to examine more fully they become excited, staggering about, and may possibly fall, particularly those of highest nervous temperament. The pulse bears a semblance to that of an animal suffering from symptomatic anthrax, but has a distinctive throb. The respirations are regular, but little increased in number with an occasional hiccough which gains frequency, and I opine that this phrenic contraction enters largely into the immediate cause of death. Temperature, at first normal, decreases, fæces and urine natural, visible mucous membranes injected, skin, cold, clammy, and sweating.

In time this neuro-myological irritability becomes intensified. Administration of medicines aggravates it, and the animals eventually become seized with motorial inactivity and inability to rise. The head bent back (*opisthotonos*), eye partially covered with nictitating membrane, sensible to light, limbs extended and perfectly rigid, spine stiffened, respirations irregular, chest being fixed, the slightest noise causing excitation and exacerbation of spasm; paroxysm succeeds paroxysm until the animal eventually succumbs asphxyiated or exhausted in from six to eighteen hours.

In some cases the owners have tried to bleed the animals antecedent to *our* actions, but their efforts have been ineffectual (performed skillfully), but the blood is of a thick, black, tarry nature, and will not flow freely.

On the foregoing appearances the treatment adopted has been the administration of agents calculated to allay nervous irritability, and maintain fluidity of the blood in the vessels; as we cannot assign the cause it is altogether unreasonable to expect to remove it, and thus the varied manifestations are treated accordingly.

Necroscopical examination reveals very little ecchymosed spots on bowels and spleen, which is normal in size. Contents of stomach free from any toxic vegetable agent. Brain slightly congested with meningeal effusion, and in some cases capillary embolism. The flesh a few hours after death becomes quite black, the blood has been examined by a competent authority, and has afforded no clue, possibly inoculation might prove something.

The nature and cause of this disease are equally obscure. No channel of poison. either vegetable or mineral, or animal, has been overlooked, but I fail to find anything even suspicious. Probably some of your readers may, from the symptoms, be reminded of strychnine poisoning, but this we have not overlooked.

SPRAINS AND THEIR TREATMENT BY PRESSURE.

By Fred Smith,
Professor in the Army Veterinary School, Aldershot.

Mr. Hunting's practical paper on Sprains at a recent meeting of the C.V.M.A., was a means of eliciting information on the treatment by pressure which I brought forward as something fresh at a meeting of the Southern Counties about three years ago.

Some few years ago I had an opportunity afforded me of dissecting a recent sprain of the perforans, and I was struck by the enormous hæmorrhage into the structure of the fibres, and the considerable effusion into the substance of the tendon. Being imbued by my early anatomical teaching that tendons were non-vascular, I was inclined to regard this condition as accidental, and forthwith commenced, by a series of observations, to attempt to determine whether tendons are vascular and to what extent. I regret that other matters have prevented the publication of this paper, but I may at once say that tendons, for tendons, are remarkably vascular, which any one can prove for himself by injecting a limb with a coloured fluid injection.

It was evident, therefore, that hæmorrhage and effusion into the substance of the tendon were the cause of the thickening. How far do these contribute to repair and subsequent stability? I have arrived at the conclusion that instead of assisting in repair they retard it, that the subsequent thickening is principally due to these causes, and that a weaker tendon is left when the swelling has been encouraged, than when it has been positively retarded and kept under control.

A tendon is for clinical purposes a bundle of fibres, when some of these fibres are torn hæmorrhage and effusion occur, which by dissecting a passage for themselves between and around the sound fibres separate them one from another, and, moreover, materially separate the edges of the torn fibres from each other. In other words, they place the tendon for the purpose of repair under the worst imaginable condition,

1. By separating the torn edges of the ruptured fibres.
2. By separating the bundles of healthy fibres one from another, and so permanently weakening them.

Hæmorrhage and effusion can, to a considerable extent, be prevented or kept under control by the application of a bandage to the injured part, which acts in this way:—

1. Supports the part.
2. Acts the part of a splint and keeps the fibres of the tendon together.

3. Prevents hæmorrnage and effusion, and by so doing
4. Keeps the parts in apposition and in the best position for repair.

Repair in tendons is *not effected by the reproduction of fresh tendinous material*, tendon is never reproduced, the best we can hope for is a fibrous union between the broken fibres; if this fibrous union be a short one, say one quarter of an inch long, the tendon may stand, if longer it will give way—our object, therefore, in treatment, is to have as short a fibrous union as possible, and this is obtained by preventing the outpouring of that material from which this fibrous union is formed, viz., the blood and lymph.

I treat a sprain like a broken leg, keep the parts in apposition, perfect rest, and support with a bandage which acts the part of a flexible splint. A tendon treated in this way makes a remarkable recovery, thickening and bowing is either absent or nearly so, shewing that very little fibrous tissue is formed, that the fibres of the tendon are not dissected apart, and that the material which experience shows to be useless for the purpose of strain, viz., inflammatory fibrous tissue, is manufactured in the smallest possible quantity; we get the fibres of the tendon to unite one with another without the intervention of a fibrous union, or with one as short as possible.

Immediately on the occurrence of a sprain I apply a bandage —preferably an elastic one. It is impossible to describe the degree of pressure; it must not be so great as to cut off the blood supply, but it must be sufficient to control effusion. With an elastic bandage this is easily regulated, any desired pressure being obtainable with a slight amount of force; if a linen bandage be used it requires some little effort to apply it. Under either circumstance the part should be enveloped in a thick covering of tow so as to protect the skin; particularly should this be the case at the top and lower edge of the bandage: the object of the tow is to equalize the pressure on the part, and prevent the skin suffering.

The first application causes some inconvenience, often amounting to pain. No harm arises from loosening the bandage and at once re-applying it, in fact it gives relief: it is wonderful, however, how soon a horse accomodates himself to the state of affairs, and after a few hours shows no sign of inconvenience from the pressure. We see the reason of this next day, as the limb is smaller and our tight bandage (assuming a linen one is used) is now a loose one; we make a careful examination to ensure that our pressure has been evenly applied, cover the part once more with a thick covering of tow and bandage up again. Remove the bandage twice a day and re-apply; the results will speak for themselves.

Elements essential to success:—

1. Pressure can only be good when the case is seen early.
2. Apply bandage without delay, preferably one of rubber.
3. Apply so as to afford firm support, but not so as to cut off the blood supply and kill the skin.
4. Always put a thick cover of tow around the limb before bandaging.
5. Remove daily or twice a day.
6. The treatment should be kept up for three weeks or a month, depending on the severity of the case; the horse is then either fit for work, blistering or firing.

RELATIONS OF INFLAMMATION & REPAIR.

At a recent meeting of the Central V.M.S, some discussion took place on the value or otherwise of exudation in relation to the repair of injured tendons. The question is one of such importance that I beg to send you a long extract which I think puts the matter very clearly.*

"The factors of inflammatory repair are partly general, partly special. The chief general factor is an increased supply of nutriment to the tissues, which in vascular parts is supplied by the exudation and emigration of leucocytes from the damaged vessels.

Now since this indispensable supply of nutriment is only afforded through the damaged condition of the walls of the vessels, we see that this kind of damage is essential to the repair of the damage as a whole, and hence it is right to speak of the vascular phenomena of inflammation, viz. hyperæmia, exudation, and their results, as a salutary process, tending towards recovery. If we imagine the case of all other tissues in an organ being injured, but the vessels not damaged, then the healing exudation would not be poured out, and repair would take place imperfectly or not at all. The process in such a case would be necrosis, not inflammation.

Another factor which appears to favour renewal of tissue-elements is the diminished resistance of surrounding parts. In normal conditions the elements of the body form a closely-packed mosaic, in which every cell has its growth stricly limited by the pressure of those around it, But let some of these be destroyed; those which remain are, so to speak, liberated from control, and become more capable of growth and development. With all this, we do not, however, *explain* the production of new elements, which results evidently from the independent activity of the cells.

The special factors in inflammatory repair consist in the processes of growth by which, in the several tissues, new elements are produced. These processes are not peculiar to inflammation. In fact, they are not even pathological; for they are the means by which, in normal tissues, new elements are constantly being formed, to replace those lost in physiological waste.

* A Manual of General Patholoy, by J. F. Payne, M.D. Oxon.

Since each tissue has a mode of growth peculiar to itself, these changes cannot be brought under any general expression, and the new growth of connective tissue alone has any universal importance in all inflammatory processes. Of the rest, different tissues vary much in their capacity for repair, some being never perfectly restored if much injured.

The repair of connective tissue has a specially important relation to inflammation for the following reasons:

First, connective tissue being present, broadly speaking, in all organs, the phenomena of its restoration are always seen in injured, that is, inflamed parts. *Secondly*, this tissue has a greater capacity for repair than special tissues. Consequently, if the latter are imperfectly restored, as often happens, new connective tissue takes their place. *Thirdly*, the process of restoration of connective tissue often passes the bounds of mere repair, and becomes hyperplasia or overgrowth. In that case this newly formed fibrous tissue appears as if it were a *product* of inflammation, and in the sense of being a result of the inflammatory process, it certainly is so.

The process of repair in connective tissue appears to be inseparably connected with exudation and cell-emigration from the blood-vessels. The first step clearly is the effusion of a coagulable exudation or inflammatory lymph. It was at one time thought that this material, called plastic lymph, was directly converted into fibrous tissue, or, as it is said, organised. But more minute research has shown that the process is not quite so simple. The fibrin of the exudation appears to play only a passive part, or, at most, to serve as a sort of temporary cement. The essential change consists in the substitution for this *inorganised material* of a *true tissue*, formed out of the permanent and migratory elements (that is, out of the tissue-cells and the leucocytes) and supplied with blood-vessels which grow out from the existing vessels of the part. The 'vascularization of the lymph' is an essential element of the process.

The result of these processes is the production of a sort of temporary structure which becomes converted into fibrous tissue. This temporary structure is present more or less clearly in all the so-called 'plastic inflammations,' that is to say, those in which new connective tissue is formed; for instance, in adhesive pleurisy and similar inflammations of serous membranes, and in the healing of almost every kind of wound, internal and external. It also fills up the gaps formed by deep ulcers or other lesions of the skin. When it reaches the external surface, uncovered by epidermis, it takes the form of what are called granulations or 'proud flesh,' often projecting above the surface. Granulations supply the best type of this temporary tissue, which is hence called granulation-tissue. Though granulation-tissue is a necessary step in the process of restoration, its *persistence* is naturally and rightly regarded as a sign of imperfect repair.

On examining microscopically the structure of granulation tissue we see blood-vessels cut in section, but which in reality form loops, some formed fibrous tissue, and a great number of leucocytes, derived from the vessels. Besides these are other cells which form the most important link in tissue-formation, viz. the epithelioid cells, also called fibroblasts or fibro-plastic cells. It is by the metamorphosis of these that the connective-tissue fibres are formed. What is their origin? According to Ziegler (whose views are not, however, universally accepted) they are formed out of the emigrated leucocytes in the following way. While a great number of leucocytes become converted into ordinary pus-corpuscles, with multiple nuclei, and perish, others, which have but one large nucleus, increase in size, and their protoplasm becomes granular. At the same time the nucleus undergoes a remarkable change; it becomes clearer, oval and vesicular, so as to resemble the nucleus of a sarcoma cell, the function of which is also to form fibrous tissue. The nuclei multiply by fission, probably by the indirect method called karyokinesis, and division of the protoplasm follows, so that the cells increase in number. If the cell-division does not keep pace with the multiplication of nuclei, binuclear or multinuclear cells are formed. The latter, called 'giant cells,' are sometimes seen in granulations, but not commonly or abundantly. Cells are also said to fuse with one another, and this is perhaps one way in which giant-cells are produced.

The cells thus modified put forth protoplasmic processes either at both ends, so as to form a bipolar spindle-cell, or in several directions, so as to form branched cells. The next step is the formation of connective tissue fibres. It is a standing controversy in normal histology whether these are formed by splitting up of the protoplasm of the tissue-cells, or by fibrillation of the intercellular substance. In inflammatory tissue-formation, at least it is thought that both processes occur, so that fibres originate from both these sources. At all events the result is that fibrous tissue is formed, the nuclei of the fibroblasts remaining as the nuclei of the tissue.

The only point still remaining a matter of controversy is the origin of the fibroblasts. Those who deny Ziegler's explanation given above, believe these elements to be derived from the tissue-cells of the part, which by proliferation give rise to new cells, with the characters above described, while the leucocytes undergo degeneration. The evidence that the tissue-cells do give rise to new elements is very strong; and provisionally it may be regarded as probable that both modes of formation actually occur. Proliferation of the fixed connective-tissue cells takes place according to the method of normal parts.

VETERINARY SOCIETIES.

ROYAL COUNTIES VETERINARY MEDICAL ASSOCIATION.

A meeting of the above Association was held at the Junction Hotel, Didcot, on Friday, June 26th last. The President, William Wilson, Esq., Berkhamsted, in the chair. There was a small attendance of members. The visitors present were Messrs. H. Edgar, W. J. Paxton, H. Briscoe, and E. L. Stroud.

Messrs. Henry C. Legge, M.R.C.V.S., Dorking, and W. C. Hazelton, M.R.C.V.S., Buckingham, were unanimously elected members of the Association.

A letter was read from Mr. G. V. Poore. M.D., asking that delegates be appointed to represent the Association at the forthcoming International Congress of Hygiene and Demography, and also for a contribution to its funds. Messrs. Wm. Wilson and A. Wheatley were appointed Delegates, and the sum of five guineas was voted as a donation.

A circular was read from Mr. Raymond requesting a subscription from this Association to the John Henry Steel Memorial Fund. A sum of ten guineas was voted as a contribution to that fund.

It was decided to hold the next meeting in London.

Mr. Wheatley showed a renal calculus, which had been taken from a very old horse by Mr. C. W. Griffiths, M.R.C.V.S. The animal had been used by a coal merchant in his business for eleven years, and had never shown any symptoms of pain or illness until a few months ago, when atrophy of the muscles of the hind quarters was observed. A week ago he was unable to rise, and was destroyed. On examination the calculus, which weighed 11lbs. 14ozs., was found. A hope was expressed that Mr. Griffiths would write a short description of the case, and allow the specimen to be placed in the Museum of the Royal College of Veterinary Surgeons.

Mr. J. Sutcliffe Hurndall read an intensely interesting paper on "An enquiry—What has contemporary veterinary science done towards the advancement of the healing art, and wherein is there scope for further development?"

The discussion was postponed till next meeting.

The members and visitors partook of a most elegant Luncheon which was done in Mr. Drewe's best style.

An Enquiry! What has Contemporary Veterinary Science done towards the Advancement of the Healing Art, and wherein is there scope for Further Development?

By J. Sutcliffe Hurndall, M.R.C.V.S.

Mr. President and Gentlemen:—

Lord Nelson's famous motto which affirms that "*England expects every man to do his duty*," though originally intended as a stimulus to the gallant Admiral's fighting Marines, may very appropriately be applied in a modified form to the peaceful arena of scientific enquiry: this and kindred associations were originally established and have, since their inauguration, been carried on chiefly for the dissemination of scientific knowledge; nevertheless the work which this object has entailed has been found to be of so arduous and responsible a character that nothing short of a very sensitive appreciation of duty on the part of the Members of our Veterinary Associations would prompt any to undertake the labour, both of time and thought, involved in the preparation of a subject for discussion at these periodical meetings.

In the first place, there are, so far as my experience goes, few more difficult or unthankful offices than that which meets the would-be essayist at the very outset of his work, namely, to select a subject upon which to write; for it is a foregone conclusion that among the many members of such an association as this for instance, there are almost certain to be a given number who either know all about the selected subject before the writer has had an opportunity of laying bare his views thereupon, or it is voted one that is dry, uninteresting and of no practical value. Now! Sir; I am free to confess that nothing but a keen sense of duty, as a member of this association, would have induced me to respond to the only too flattering invitation I received to read a Paper on the present occasion; for I feel that if these associations are to continue their existence and furnish satisfactory evidence of their usefulness, it is the bounden duty of every member, at given intervals, to provide some mental pabulum whereupon our psychological qualities may nourish and develop.

I hope I am not presumptuous enough to imagine for one moment that I can assume the rôle of Mentor to the members of an association like this, which includes among its numbers so many gentlemen of distinction in our noble profession; for what with Teachers in our Schools, Members of the Examining Board and Members of the Council of the R.C.V.S., we include an influential array of gentlemen who can fairly claim to be of the very élite of the profession; I repeat, Gentlemen, I hope I am not presumptuous enough to think for one moment I can teach you anything: if I can show you that individually I am not satisfied with remaining professionally *in statu quo*, and you will bear with me while I explain what I am seeking after with the view of becoming a more useful and successful member of the profession I shall, at least partially, have attained the object of the enquiry; and I trust, very sincerely, that the thoughts which I propose to offer for your consideration will serve to arouse in each of our minds a wholesome emulation for that particular knowledge which will the better fit us to combat disease and so deservedly to merit the increasing confidence of those who place the care and the lives of their Stock in our charge.

In the first place, I propose to take a brief glance at those departments of practice and scientific enquiry which have received most attention at the hands of workers and practitioners generally, and afterwards to invite your consideration more especially and at greater length to that department in medicine which I consider deserves far more serious and earnest study and attention than it has ever received at our hands as a professional Body; I refer to therapeutics; and I confine the term therapeutics to its simple and true meaning, namely, the cure or alleviation of disease through the instrumentality of drugs. As you are well aware, the term therapeutics is in general parlance applied to whatever methods are adopted for the alleviation of pain or disease; such application of the word is certainly not scientific; moreover, I go further, and state that it is not permissible, for therapeutics could not be regarded as a science if it had no more definite and precise application than popular thought attaches to it. But if we restrict the meaning of the word in this way, how are we to account for and describe those functions of the doctor which are brought into requisition for the cure of disease other than by the means of drugs?

For instance, in cases of injuries or accidents you are called in to operate as Surgeons and as such you afford relief; you bring to bear upon the case your knowledge of anatomy and physiology, and as an operative surgeon most probably will have to invoke the aid of the laws of mechanics: it is true that the effects of such injuries and the operative surgery they demand may, sooner or later, involve other portions of the organism so that the condition of the patient calls for the administration of a drug to alleviate the after developments consequent upon the operative surgery, in which case you will be acting in the double capacity of operative Surgeon and Therapeutist; still from a scientific aspect the two must not be confounded as they are entirely distinct. These remarks apply in much the same way to obstetrics; mechanical interference, especially among country practitioners, when abnormal conditions supervene during parturition is not infrequently called for; at the same time operative obstetrics might be circumscribed to a

very considerable extent if a wider knowledge of therapeutics was brought to bear, and especially is this so as regards the sequelæ incident upon parturition such as hœmorrhage, and the retention of the placenta. I can testify from practical experience to the immense value of the application of therapeutics in many apparently otherwise hopeless cases of parturition; indeed I could relate some cases of really remarkable delivery, the success of which could be attributed to nothing, if not to the action of the drug administered, as from beginning to end no mechanical assistance was afforded. I do not wish it to be understood that I undervalue the importance of skill in operative obstetrics, but I maintain that amongst Veterinary Surgeons forcible measures in affecting delivery are far too frequently resorted to, and many times on occasions when operations are not called for and when therapeutic measures would answer far better. So in obstetrics you may fill the double office of Operative Surgeon and Therapeutist.

Then again we, as Veterinarians, have a very important department of medical science which includes the prevention of disease, and the removal or modification of material causes which tend to bring about or perpetuate disease; I refer to Hygiene. We may advise as to food, drink, light, heat, drainage, ventilation, the amount and description of work to be performed, and upon many other matters that may be favourable or unfavourable to health, and in this manner perform valuable service to our clients; but under none of these conditions do we act as Therapeutists; in doing this you will probably have to apply your knowledge of chemistry, physiology, pathology and natural history to the consideration of the matters brought under your notice, but still you will be acting as a Hygienist and not a Therapeutist.

I hope I have succeeded in making my argument clear, and that I have impressed upon your minds that as Curators of the sick you are called upon to perform other functions besides the very essential one of administering drugs; and, that strictly speaking, these duties though very important at the proper time are not included within the scope and limits of the science of therapeutics, which is concerned only with the treatment of the sick by the aid of drugs. Having thus attempted to define what I mean, and what I wish you to understand by the term Therapeutics, I will pass on to a short review of those departments of medical science which have recently been receiving most attention at the hands of the leading Members of our own and the sister Medical Profession; I refer to Surgery, Hygiene and Bacteriology.

It is not my intention to occupy your time at any length with the consideration of the two first branches, namely, Surgery and Hygiene because they furnish little subject for discussion, inasmuch as I am at one with the profession in the general methods of procedure adopted in carrying them out; it was necessary for my argument to classify them as distinct the one from the other, in order that they may be distinguished from, and not included in, therapeutics. No doubt you will all agree with me that operative surgery has within recent years made noticeable and rapid advancement in the refinement of its methods and modes of procedure, and that far greater care is now observed in carrying out the various operations which come within the scope of daily practice: probably the more general use of anæsthetics in operative surgery marks an epoch in our professional experience which is deserving of special note, as undoubtedly from a humanitarian standpoint it is one of the duties of the Veterinary Surgeon to reduce to a minimum the pain and suffering necessarily consequent upon many of the operations we are called upon to perform. While upon the subject of anæsthetics it is a fact worthy of your careful attention that in cases of difficult parturition where mal-presentation interferes with the normal physiological process the administration of chloroform not only saves the patient from the extreme exhaustion ordinarily consequent upon the throes of labour, but it relaxes the muscular contractions which so seriously hamper the labours of the operative obstetrician. Last year antiseptic operative surgery received a somewhat severe blow when Sir Joseph Lister acknowledged at the International Medical Congress, held in Berlin, that "he was ashamed that he ever recommended the carbolic spray, as not only did it not destroy the microbes in the air, but it often caused serious toxic effects on the patients on whom it was employed." This must have been a bitter pill for the noble Baronet to swallow, because it was generally understood at the time that the Baronetcy was conferred upon him in virtue of the invention which he was credited with introducing for the benefit of suffering humanity; although I have never adopted the use of the carbolic spray in any of my own operations, I have on several occasions seen it practised by professional friends, and was struck at the time with what appeared its inutility judging by the after results; it is now easy to understand the reason on Sir Joseph's own admission.

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Messrs. Henry C. Legge, M.R.C.V.S., Dorking, and W. C. Hazelton, M.R.C.V.S., Buckingham, were unanimously elected members of the Association.

A letter was read from Mr. G. V. Poore. M.D., asking that delegates be appointed to represent the Association at the forthcoming International Congress of Hygiene and Demography, and also for a contribution to its funds. Messrs. Wm. Wilson and A. Wheatley were appointed Delegates, and the sum of five guineas was voted as a donation.

A circular was read from Mr. Raymond requesting a subscription from this Association to the John Henry Steel Memorial Fund. A sum of ten guineas was voted as a contribution to that fund.

It was decided to hold the next meeting in London.

Mr. Wheatley showed a renal calculus, which had been taken from a very old horse by Mr. C. W. Griffiths, M.R.C.V.S. The animal had been used by a coal merchant in his business for eleven years, and had never shown any symptoms of pain or illness until a few months ago, when atrophy of the muscles of the hind quarters was observed. A week ago he was unable to rise, and was destroyed. On examination the calculus, which weighed 11lbs. 14ozs., was found. A hope was expressed that Mr. Griffiths would write a short description of the case, and allow the specimen to be placed in the Museum of the Royal College of Veterinary Surgeons.

Mr. J. Sutcliffe Hurndall read an intensely interesting paper on "An enquiry—What has contemporary veterinary science done towards the advancement of the healing art, and wherein is there scope for further development?"

The discussion was postponed till next meeting.

The members and visitors partook of a most elegant Luncheon which was done in Mr. Drewe's best style.

An Enquiry! What has Contemporary Veterinary Science done towards the Advancement of the Healing Art, and wherein is there scope for Further Development?

By J. Sutcliffe Hurndall, M.R.C.V.S.

Mr. President and Gentlemen :—

Lord Nelson's famous motto which affirms that "*England expects every man to do his duty*," though originally intended as a stimulus to the gallant Admiral's fighting Marines, may very appropriately be applied in a modified form to the peaceful arena of scientific enquiry: this and kindred associations were originally established and have, since their inauguration, been carried on chiefly for the dissemination of scientific knowledge; nevertheless the work which this object has entailed has been found to be of so arduous and responsible a character that nothing short of a very sensitive appreciation of duty on the part of the Members of our Veterinary Associations would prompt any to undertake the labour, both of time and thought, involved in the preparation of a subject for discussion at these periodical meetings.

In the first place, there are, so far as my experience goes, few more difficult or unthankful offices than that which meets the would-be essayist at the very outset of his work, namely, to select a subject upon which to write; for it is a foregone conclusion that among the many members of such an association as this for instance, there are almost certain to be a given number who either know all about the selected subject before the writer has had an opportunity of laying bare his views thereupon, or it is voted one that is dry, uninteresting and of no practical value. Now! Sir; I am free to confess that nothing but a keen sense of duty, as a member of this association, would have induced me to respond to the only too flattering invitation I received to read a Paper on the present occasion; for I feel that if these associations are to continue their existence and furnish satisfactory evidence of their usefulness, it is the bounden duty of every member, at given intervals, to provide some mental pabulum whereupon our psychological qualities may nourish and develop.

I hope I am not presumptuous enough to imagine for one moment that I can assume the rôle of Mentor to the members of an association like this, which includes among its numbers so many gentlemen of distinction in our noble profession; for what with Teachers in our Schools, Members of the Examining Board and Members of the Council of the R.C.V.S., we include an influential array of gentlemen who can fairly claim to be of the very élite of the profession; I repeat, Gentlemen, I hope I am not presumptuous enough to think for one moment I can teach you anything: if I can show you that individually I am not satisfied with remaining professionally *in statu quo*, and you will bear with me while I explain what I am seeking after with the view of becoming a more useful and successful member of the profession I shall, at least partially, have attained the object of the enquiry; and I trust, very sincerely, that the thoughts which I propose to offer for your consideration will serve to arouse in each of our minds a wholesome emulation for that particular knowledge which will the better fit us to combat disease and so deservedly to merit the increasing confidence of those who place the care and the lives of their Stock in our charge.

In the first place, I propose to take a brief glance at those departments of practice and scientific enquiry which have received most attention at the hands of workers and practitioners generally, and afterwards to invite your consideration more especially and at greater length to that department in medicine which I consider deserves far more serious and earnest study and attention than it has ever received at our hands as a professional Body; I refer to therapeutics; and I confine the term therapeutics to its simple and true meaning, namely, the cure or alleviation of disease through the instrumentality of drugs. As you are well aware, the term therapeutics is in general parlance applied to whatever methods are adopted for the alleviation of pain or disease; such application of the word is certainly not scientific; moreover, I go further, and state that it is not permissible, for therapeutics could not be regarded as a science if it had no more definite and precise application than popular thought attaches to it. But if we restrict the meaning of the word in this way, how are we to account for and describe those functions of the doctor which are brought into requisition for the cure of disease other than by the means of drugs?

For instance, in cases of injuries or accidents you are called in to operate as Surgeons and as such you afford relief; you bring to bear upon the case your knowledge of anatomy and physiology, and as an operative surgeon most probably will have to invoke the aid of the laws of mechanics: it is true that the effects of such injuries and the operative surgery they demand may, sooner or later, involve other portions of the organism so that the condition of the patient calls for the administration of a drug to alleviate the after developments consequent upon the operative surgery, in which case you will be acting in the double capacity of operative Surgeon and Therapeutist; still from a scientific aspect the two must not be confounded as they are entirely distinct. These remarks apply in much the same way to obstetrics; mechanical interference, especially among country practitioners, when abnormal conditions supervene during parturition is not infrequently called for; at the same time operative obstetrics might be circumscribed to a

very considerable extent if a wider knowledge of therapeutics was brought to bear, and especially is this so as regards the sequelæ incident upon parturition such as hœmorrhage, and the retention of the placenta. I can testify from practical experience to the immense value of the application of therapeutics in many apparently otherwise hopeless cases of parturition; indeed I could relate some cases of really remarkable delivery, the success of which could be attributed to nothing, if not to the action of the drug administered, as from beginning to end no mechanical assistance was afforded. I do not wish it to be understood that I undervalue the importance of skill in operative obstetrics, but I maintain that amongst Veterinary Surgeons forcible measures in affecting delivery are far too frequently resorted to, and many times on occasions when operations are not called for and when therapeutic measures would answer far better. So in obstetrics you may fill the double office of Operative Surgeon and Therapeutist.

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It is not my intention to occupy your time at any length with the consideration of the two first branches, namely, Surgery and Hygiene because they furnish little subject for discussion, inasmuch as I am at one with the profession in the general methods of procedure adopted in carrying them out; it was necessary for my argument to classify them as distinct the one from the other, in order that they may be distinguished from, and not included in, therapeutics. No doubt you will all agree with me that operative surgery has within recent years made noticeable and rapid advancement in the refinement of its methods and modes of procedure, and that far greater care is now observed in carrying out the various operations which come within the scope of daily practice: probably the more general use of anæsthetics in operative surgery marks an epoch in our professional experience which is deserving of special note, as undoubtedly from a humanitarian standpoint it is one of the duties of the Veterinary Surgeon to reduce to a minimum the pain and suffering necessarily consequent upon many of the operations we are called upon to perform. While upon the subject of anæsthetics it is a fact worthy of your careful attention that in cases of difficult parturition where mal-presentation interferes with the normal physiological process the administration of chloroform not only saves the patient from the extreme exhaustion ordinarily consequent upon the throes of labour, but it relaxes the muscular contractions which so seriously hamper the labours of the operative obstetrician. Last year antiseptic operative surgery received a somewhat severe blow when Sir Joseph Lister acknowledged at the International Medical Congress, held in Berlin, that "he was ashamed that he ever recommended the carbolic spray, as not only did it not destroy the microbes in the air, but it often caused serious toxic effects on the patients on whom it was employed." This must have been a bitter pill for the noble Baronet to swallow, because it was generally understood at the time that the Baronetcy was conferred upon him in virtue of the invention which he was credited with introducing for the benefit of suffering humanity; although I have never adopted the use of the carbolic spray in any of my own operations, I have on several occasions seen it practised by professional friends, and was struck at the time with what appeared its inutility judging by the after results; it is now easy to understand the reason on Sir Joseph's own admission.

Passing on to Hygiene we come to the consideration of that branch of medical science which deals with the prevention of disease: it has been stated by a highly successful American Physician that "the advances of physiology and pathology, chemistry and natural history, within the last thirty years, have given to sanitary science a scope and importance which were not heretofore imagined. Many epidemic diseases have been shown to be dependent upon the conditions in which the individual, the family and the community live—conditions which by knowledge and care might be obviated. I refer in general to improper drainage of the soil, deficient ventilation, unwholesome food and drink, lack of light and heat, injurious occupations, improper social habits and relations. Surely the doctor of medicine can have no more important business than the prevention of disease by diligent endeavour—whether as a public officer or as the medical adviser of a family or of an individual—to modify unfavourable conditions and thereby remove material causes of disease and place those with whose care he is charged under circumstances most favourable to health." These sentiments are unquestionably most noble and such as one would expect from a conscientious medical man, who has to deal with the well-being of the human race: and no doubt up to a certain point similar sentiments ought to actuate and guide the Veterinary Surgeon in his relations with his clients—but it is a question in my mind whether he is in duty bound to move in this direction to the full extent that the sister profession is—simply because the public, instead of appreciating his labours to this end, pump all the information it can get out of him, appear quite unwilling to remunerate him suitably for his advice, and act as though independent of his services in the future; hence I consider it a matter worthy of serious thought how far our profession is called upon to stultify itself by providing clients with information which renders them in a very great measure independent of the services of the veterinary profession. In the issue of May 16th of our valuable weekly professional journal, *The Veterinary Record*, the Editor in his leading note discusses this subject, and asks the question, "Do we really lose by all our good advice and all our scientific teaching?" and he further states that in his opinion, "We shall reap the reward of our services by being consulted more frequently than if we had adopted the selfish plan of standing silent whilst disease prevailed all around us." I am free to admit that this is how it ought to be, but my experience contra-indicates such a result; whether this condition of things ever will be

realised certainly remains to be proved. My own opinion is, that where our profession can influence the adoption of more perfect hygienic principles, and the surrounding conditions affect the health and well-being of the human race, it is our duty to do all we can to encourage their adoption; such as the legal enforcement of strictly sanitary laws affecting the management of dairies and slaughter-houses, and such like improvements; but until the owners of horses learn how to better appreciate the sanitary improvements which many of our body have sought to introduce into stable management, it is in my opinion a matter for thoughtful consideration how far such advice should be voluntarily given. If specially consulted upon the subject we must, without doubt give the best advice we can; but I have known of numerous instances where young men, actuated by highly conscientious motives, have gone out of their way to make suggestions affecting the sanitary condition of stables, the adoption of which has resulted in very long intervals taking place between the periods of their calls, while at the same time the clients strongly objected to paying for this kind of advice. It may be that the very mild suggestion I have thrown out will be considered by many in our profession altogether heterodox; this I cannot help; we must, in justice to ourselves, examine the bearings of the subject from all points; where clients are willing to pay a suitable fee for advice upon hygiene, or where the conditions are such that satisfactory cures cannot be brought about without sanitary improvements, then by all means do what you can to effect them; but I still maintain that it is inadvisable to be too free and too lavish with such advice if these conditions do not exist.

The Editor of *The Veterinary Record* in the article before referred to, gives it as his opinion, presumably from experience, that "the thoughtful stock owner must recognize that the profession has done good, and that it has a strong claim to the position of reliable adviser which it assumes." I can only remark upon this, that up to the present my experience, as well as that of several of my professional brethren does not comprise this view, but I heartily congratulate Mr. Hunting upon the realization of such an enviable position among his clientèle. Whatever the stock and horse owning public may think on the matter, there is no doubt that the members of our profession can honestly lay claim to the honour of having done much for the general well being in that department of medical science which comes under the classification of hygiene. Consider for one moment what strenous efforts have been made in some quarters to bring the general management of dairies under such sanitary regulations as, if properly enforced, would do much to prevent the spread of disease whether it be from the inherent qualities of the milk itself, or through milk as a factor in conveying the germs of zymotic and other forms of disease from place to place; then again with what earnestness have many of our members almost pleaded for the enactment of such legislation as would bring all slaughter-houses under proper and efficient control and inspection; and having carefully pondered over these two points only, kindly tell me whether the public and its officials have appreciated our efforts; I anticipate that not a few of my professional brethren will agree with me that so far it has proved a thankless task; notwithstanding we have the moral satisfaction of knowing that we have been doing our duty in this direction, and we may metaphorically pat ourselves on the back, for, although little progress has been made in perfecting the healing art, great and solid advances have been made in all directions affecting the animal world in that branch of medical science which deals with the prevention of disease. But while as a professional body we have been markedly successful in spreading a knowledge abroad how to prevent disease, I fear we cannot say that we have made corresponding advances in that branch of our science which deals with the cure of disease, and after all this surely is the chief mission of the veterinary profession, and I maintain that it is *the one* to which in our own interests we should devote our most serious and watchful investigation.

Before proceediug to deal with this portion of my subject however, I must first remind you of that branch of medical science which for some years has been occupying so large a proportion of the attention of medical scientists and veterinarians; I refer to Bacteriology or the science which treats of disease germs, and the relation of micro-organisms to infectious disease. It seems to have come to this, that no professional man can possibly hope to be recognized among his contemporaries and confrères as having the slightest claim to be considered a scientist, or an investigator, or a worker in the domain of medicine who is unable to accept as gospel truth whatever Klein, Pasteur, or Koch may think fit to dogmatise upon; it is only for one or other of these gentlemen to advance a theory and announce that he has discovered a micrococcus, a bacterium, a spirillum, or a bacillus, and with remarkable credulity the most illustrious and renowned members of the medical and veterinary professions take it all in; and, what is more, they sometimes lend the weight of their professional status and influence to back up the said thories, as witness, Sir James Paget in connection with Pasteur's anti-rabic inoculations when he attended that notable meeting which was called together to do honour to Pasteur in the Mansion House by the then Lord Mayor of London. On that occasion Sir James made what I should term some most reckless statements, which I shall refer to further on when dealing with statistics affecting Pasteur's work; I do not wish to be understood as under-rating the importance and value of much of the labour carried on by workers in this branch of science; but let me ask you gentlemen, where are the results, and are they at all proportionate with the exalted importance ascribed to the science?

Bacteriology has, I maintain, become a mere fashionable pursuit, which, although we are sometimes told it is dangerous to prophesy, I venture to predict will in course of time be relegated to comparative obscurity, because it cannot do other than fail to realize the expectations it has raised in the medical and veterinary worlds.

What satisfactory treatment for the cure of disease has been based on any of the discoveries arising out of Bacteriological research; if any one can tell me I shall be glad to hear of it? I had at one time some hope that the *furore* about bacteriology would at least have proved productive of good as regards its protective value, especially in relation to anthrax vaccination, but even this seems likely to turn out to be a mere will-o'the-wisp. Pasteur's attempt to bring rabies under subjection, I never did believe in, and it has proved to be far worse than a failure. Koch's pretended cure for tuberculosis, it is to be feared, must be included in the same category.

Fashions in medical doctrines, from which as Veterinarians we are no more free than is the sister profession, are ever changing. Years ago bleeding, purgation, and starvation were sovereign methods of treatment: but these had to give way to stimulants and tonics; again, mercury in various preparations was, at least among members of the sister profession, exhibited in almost all diseases, and many were the cases that were literally salivated to death, but in due time this treatment was discarded. Later it became quite the rage to administer salicylate of soda in all cases of rheumatism with the result that in a large number of cases the hearts of many patients were left permanently and injuriously affected; indeed one might go on multiplying *ad infinitum* systems that have for a time been all the rage, as illustrative of the numberless crazes which have periodically affected the medical world. And un-

fortunately Veterinarians have only been too ready to snatch at any theory, however crude, propounded by some noted Physiologist or Pathologist, in witness whereof I have but to remind you of the rush which the Council of the Royal College of Veterinary Surgeons proposed to make to Berlin to investigate Koch's assumed cure for tuberculosis. One would have thought that the failure of Pasteur's anti-rabic inoculations would have served as a warning to our profession not to be so eager to commit itself to the expenditure of money upon such crude experimentation; but, no! this immature theory of Professor Koch's, having been launched into publicity, before it was carefully proved, gained ready acceptance at the hands of some of our leading men who exhibited an enthusiasm for the subject worthy of a better cause. Better would it be for us as a Profession, better would it be for our patients, and more satisfactory would it prove to be to our clients if we set ourselves more earnestly to discover the means and methods which under nature's laws lie at our hands for use whereby disease can be combated and reduced to subjection, rather than indulging in vague and useless experimentation involving the sacrifice of many lives and much cruelty. In an article from the pen of a professional friend of mine, which appeared in the January issue of this year in a Medical Journal under the title of Medical Science the following very forcible remarks appear; "To day we enter on the last decade of the nineteenth century and it may be useful to enquire how we stand as to Medical and more particularly as to therapeutic science, for to the great majority of people medical science is only interesting in as far as it advances therapeutics—in other words, the cure of diseases. Thus Physiologists, Pathologists and all the votaries of all the sciences included under the denomination 'Medical,' may boast of their great discoveries in their respective spheres of action without eliciting a spark of interest in the bosom of the great public, unless they are able to assert that their discoveries will enable them to cure diseases better than formerly. And it must be confessed that the public are only too willing, in fact eager, to accept the assurance of any scientist, or pretender to science, that his discovery will enable hitherto incurable diseases to be cured, or curable diseases to be cured quickly. But what is the strangest phenomenon of all, is that medical men themselves seem to be smitten with the same childish credulity with regard to newly announced remedies." After discussing the various discoveries introduced by more or less eminent and illustrious men of science that have, in the first instance, received ready credence only to be thereafter abandoned, he concludes the article as follows: "When we consider the large number of wonderful remedial novelties that have been introduced by more or less eminent doctors and others in these latter days, we might almost imagine that they have supposed that the end of the world, or at least, to speak theologically, of the present dispensation, was to come with the termination of this century, and that no time was to be lost in bringing their views before the public, though it is evident that sufficient time and labour had not been employed in ascertaining the correctness of their views. The consequence is that we are overwhelmed and astounded by the multitude of crude and imperfectly matured schemes and methods for eradicating the evils that afflict humanity . . . . . It is to be hoped that with the dawn of another century a more calm and critical spirit will prevail, and that real progress will take the place of the illusory extravagances that distract and delude the *fin de siècle*." These are the mature views of an experienced and successful physician; can we, as veterinarians, do other than plead guilty to the charges embodied in his views? I trow not! In the main, I contend that they are just as applicable to our profession as a body as to the medical profession. I have asserted that bacteriology as a science has done little or nothing to advance the healing art, and I now propose to offer a few statistics in support of the charge.

(To be continued.)

ARMY VETERINARY DEPARTMENT.

Professional Military Titles.

A correspondent writes:—

Differences of opinion exist as to the value of the proposed compound professional and military title for Veterinary Surgeons, some say it does not go far enough and that the title is clumsy. I believe, however, that it will generally be found acceptable, and we must be thankful for small mercies. It, at any rate, defines the Army rank of the Veterinary Surgeon which previously was left in a doubtful condition.

My own opinion is that Captain Baulinion, Army Veterinary Department; would be better than the title Veterinary Surgeon, Captain Baulinion.

A Higher Compliment.

It is stated that Mr. Drummond Lambert, Principal Veterinary-Surgeon of the army, is the first Veterinary-Surgeon who has received the Miltary C.B. But surely this is an error, for Inspecting Veterinary-Surgeon Meyrick was gazetted a Military C.B. for service in the Egyptian Campaign- Dr. George Fleming, late Principal Veterinary-Surgeon, was made a Civil C.B. on the occasion of the Jubilee but the decoration was conferred upon him rather in recognition of his sevices to science than as chief of a military department, and under all circumstances Dr. Fleming would doubtless have preferred the Civil Class of the order, as it was in his case a higher compliment.—*Army and Navy Gazette*

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Sir Frederick Fitz-Wygram.

The *Times of India*, referring to Sir Frederick Fitz-Wygram's recent appointment, says:—"The *London Gazette* contains an appointment which, though of no importance in itself, yet recalls the memory of an officer who served in this Presidency some 20 years ago. This is Lieu.-Gen. Sir Frederick Fitz-Wygram, who has just been appointed to the colonelcy of the 15th Hussars, which regiment he served with from 1860 to 1874. When Col. Fitz-Wygram brought the 15th Hussars out from England in the trooping season of 1870, they were one of the youngest regiments that had ever been sent to the East. They were sent to Mhow, which in those days had the reputation of being one of the healthiest cantonments in this country, where they relieved the Queen's Bays —a splendid regiment, largely composed of bearded veterans, beside whom the 15th looked mere boys. Sir Frederick Fitz-Wygram was a many-sided man, and besides being a most zealous and distinguished cavalry officer, he was a model of what the commandant of a regiment in India ought

to be, for his constant study was to make his men not only smart, but comfortable and happy: while the welfare of the women and children of his corps was his constant aim and object, and he sent numbers of them to hill stations in the hot weather at his own expense. Indeed we believe we are right in saying that to his energy and liberality are very largely due the establishment of those hot-weather retreats in the hills for wives and children of soldiers' which have proved so beneficial. Sir Frederick Fitz-Wygram's book of veterinary science is one of the best ever written, and will hold its own for a long time."

PARLIAMENTARY NEWS.

Veterinary Officers of the Board of Agriculture.

Mr. Lawson asked the President of the Board of Agriculture whether he had sanctioned the employment and payment of the three veterinary officers attached to his department in London by The Royal Agricultural Society and the directors of the Yorkshire Show to attend the shows of those societies this year; whether the principal veterinary surgeon to the Board, having an annual salary of £1,000 had during the last three years held the post of Principal to the largest Veterinary College in Great Britain; whether his predecessor resided at that institution; and why he was not required to give his whole time to the public service like the principal veterinary surgeon to the army.

Mr. Chaplin.—In reply to the first paragraph the facts are as stated in the question. It has for several years been the practice for one or other of the veterinary officers of the Board to attend certain agricultural shows. No loss to the public service is involved as these officers deduct the time they spend at the shows from their annual holidays to which they are entitled, and considerable advantage arises from their intercourse with leading agriculturists and from the information they obtain as to the circumstances of the various districts of the country. With regard to the second portion of the question, it is the fact that Professor Brown, the head of the Veterinary Department, has for three years been principal of the Royal Veterinary College, and his predecessor did reside at that institution. In reply to the last paragraph, the reason why Professor Brown has not been required to give up that appointment is that I found the arrangement in existence when I succeeded to the charge of the Agricultural Department and I have seen no reason up to the present to disturb it.—*The Times*, June 27.

The Atlantic Cattle Trade.

Mr. C. Wilson asked the First Lord of the Treasury whether, as the powers under which the Board of Agriculture was enabled to make rules for the conduct of the Atlantic live-cattle trade were granted for an entirely different purpose, viz., to prevent the introduction of contagious diseases, and as such powers added another authority under which the shipping trade of this country was conducted, the Government would, during the recess, consider the advisability of bringing in a Bill to transfer those powers from the Board of Agriculture to the Board of Trade, excepting so far as they related to the prevention of the introduction of contagious diseases.

Mr. W. H. Smith.—The hon member is, I am afraid, unacquainted with the particulars of the Act to which he refers. The Board of Agriculture is required, under the Contagious Diseases (Animals) Act, to make regulations not only for the prevention of the introduction of disease, but for ensuring for animals carried by sea a proper supply of food and water, and proper ventilation, and for protecting them from unnecessary suffering during passage and on land. (Hear, hear.) The assumption, therefore, in the question that the powers of the Board were granted for an entirely different purpose would appear to be wholly inaccurate. With regard to the second part of the question, it appears to Her Majesty's Government that the carriage and conveyance of cattle is a matter which comes naturally within the province of the Board of Agriculture rather than within that of the Board of Trade, and they do not feel disposed to interfere with existing arrangements.

London Milk.

Mr. Cobb asked the President of the Board of Trade whether he is aware that a large number of tenant farmers supplying milk to the London market suffer substantial loss in consequence of there being no official standard measure of the milk churn; whether he is aware that it is recognised by many London milk dealers that the proper measure of a churn is eight barn gallons, of sixteen pints to the gallon, but that, notwithstanding this a large number of London milk dealers require the delivery of seventeen pints to the barn gallon, and supply churns which, in addition to this excessive quantity, hold three and often four pints more, thus entailing a loss to the farmer of twelve pints in a churn, or nearly ten per cent.; whether, with a view of remedying this, he will push on the communications which are now in progress between the Standards Department and the local authorities as to the inspection, verification, and stamping of milk churns, and as to limiting the amount of error of variation which may be permitted; and whether he can name any period within which he expects the arrangements will be completed.

Sir M. Hicks-Beach said he was not aware that the custom of trade in London entailed so serious a loss on farmers as was represented in the question. The Standards Department would in the course of next month issue to the local inspectors instructions for the verification and stamping of milk churns of the various capacities now in use, so as to show the capacity of each, and it would therefore not be necessary to have a particular standard denominated a churn.

REVIEW.

VETERINARY COUNTER PRACTICE.*

The title page tells us that this book is "written expressly for Chemists and Druggists, by qualified and experienced members of the Royal Veterinary Colleges (*sic*)." The preface further states that the book has been written "because it is considered that Chemists and Druggists do not obtain that share of the veterinary practice of the country to which their knowledge of drugs and their action might fairly entitle them." It goes on to acknowledge that the suggestions given cannot take the place of the clinical experience necessary to a competent veterinary practitioner, "but in hundreds of cases they will enable the chemist to understand cases detailed to him at the counter, and to supply the most suitable remedy." The writer of the preface apparently thinks his work will enable chemists not take work from the qualified veterinary surgeon but to supersede the class of empirics who still largely prescribe for animals. About this there may be some doubt, and the veterinary practitioner should, at any rate, seriously consider the question of how he may retain what is the source of at least half his income—medicines for animals.

It will be a long time before veterinarians in country places are able to raise their fees for consultations and visits to a figure which shall be remunerative without drugs. So long as an intelligent farmer will grumble at 5/- for a visit and a six mile journey, but pay and look pleasant for a bottle of medicine at 3/6, so long must our practitioners rely largely on their "counter practice" for a living. The chemists are a decidedly progressive folk, and their book is only an indication of their advance. It has been a great success, and already a reprint is necessary to meet the demand.

Concerning the intrinsic merits of the book we must say that its information is tolerably correct, and that it certainly may be accepted by chemists as a fairly safe guide. We think the authors have attempted to make it rather too complete, and a new edition might well omit the chapter, and especially the illustrations, on "Dentition of the Horse."

The chapter on lameness we also consider superfluous, as everything depends on diagnosis; and if chemists are going to try and diagnose lameness they certainly have confidence enough to undertake any or all of the duties now thought to specially devolve upon veterinarians.

Special sections are devoted to the disease of the horse, of cattle, sheep, pigs, dogs and poultry. Decidedly the weakest is that on poultry, which leaves the contagious diseases of birds in a very indefinite if not confused condition.

Writing of colic, the authors give some advice which we fear expresses but too well their idea of the line which should separate the action of the chemist from the action of the veterinarian. They say "if the case is somewhat advanced and other remedies have already been tried, if the pulse is small and weak, and evidence of extreme prostration is present, indicated by cold ears and legs, a bad end may be anticipated; and such a case should not be attempted by any but a qualified veterinary surgeon," which means that the chemist should treat any case he can get hold of until it is dying, and then the 'Vet.' should be sent for. We hope when he arrives under such circumstances he will decline all responsibility, and advise the owner to try an action at law against the chemist.

* VETERINARY COUNTER PRACTICE: A Treatise on the Diseases of Animals and the most suitable Remedies for them. Written expressly for Chemists and Druggists, by qualified and experienced Members of the Royal Veterinary Colleges. Published at the Offices of "The Chemist and Druggist," 42 Cannon Street, London; and Fink's Buildings, Melbourne.

EXTRACTS AND NOTES.

MILK AND DIPHTHERIA.

E. KLEIN (*Nineteenth Annual Report of the Local Government Board*, 1889-90, p. 167) inoculated two milch cows (both of which had calved three or four weeks, and then had been kept under observation for a week or ten days) with a broth culture of the bacillus diphtheriæ derived directly from human diphtheria membrane, which had been incubated for three days at 37° C. On the third day he found at the seat of inoculation (under the skin of the left shoulder) a swelling containing clear sanguineous serum; this was preceded by a temporary rise of temperature. On the fourth day a small group of vesicles occurred on one teat, and on the udder near to it. On the succeeding days these vesicles lost the clear vesicular appearance, became purulent, and the centre became dark, whilst at other stages they were covered with brown crusts. Around each was distinct nodular induration of the skin, and each was placed on a raised injected corium. On removal of the crusts an ulcer covered with a purulent film was left. The pustules and ulcers varied in size from $\frac{1}{8}$ inch to $\frac{1}{2}$ inch or more in diameter; most of them were on the udder between the hind teats, but some were on the outer surface of the udder near to the base of the teats; they still continued to appear on the eighth day. The most marked feature about these was that they ran their course in from six to eight days. In the lymph of these vesicles and pustules Klein succeeded in demonstrating the bacillus diphtheriæ, both under the microscope and in the culture tube. With milk taken from these cows cultures were also obtained though not in large numbers. If the milk was allowed to stand at a temperature of from 19° to 20° C. the organism was found in enormously increased numbers. One of the cows died on the fifteenth day, the other was killed on the twenty-fourth, when marked *post-mortem* changes were found: necrosis and œdema at the point of inoculation, enlargement of the lymph glands, pneu-

monia, enlarged spleen, necrotic patches in the liver, and fatty degenerative changes in the kidney. Organisms were found only at the point of inoculation. Calves inoculated with scraping of the eruption of the cow developed similar symptoms, but no vesicles were formed. Cats fed on milk from the affected cows died with typical diphtheria, and communicated the disease to other cats placed in the same room, typical diphtheria bacilli being found in the diphtheritic membranes of these animals. The last experiment was not specially arranged, and thus loses and gains in value as it is considered from different points.—*Brit. Med. Journal*

THE PART PLAYED BY MICROBES IN SUPPURATION.

In the course of a discussion at the recent French Congress of Surgery on the different forms of suppuration examined from bacteriological and clinical points of view, the following conclusions were laid down by M. Verneuil *(Revue de Chirurgie*, May): (1) microbes are necessary for pyogenesis, pus is the function of microbes; (2) there are many known pyogenic microbes, but the number of these has not yet been made out; (3) some are constantly pyogenic and nothing more, others seldom produce pus and are pre-eminently infective; (4) the centres of suppuration are in some instances, mono-microbic, in others poly-microbic; (5) in poly-microbic purulent centres there are three kinds of association—one of different agents that are all invariably pyogenic, another of invariable with occasional agents of suppuration, and a third of pyogenic with non-pyogenic agents; (6) a purulent centre originally mono-microbic may become poly-microbic; (7) a substitution of one kind of microbe for another kind may take place in a centre of suppuration; (8) the collection of pus may become amicrobic, the pyogenic agent may disappear and the pus become sterile; (9) microbes which endender pus pervade the whole region of suppuration; (10) pyogenic microbes do not always excite suppuration nor at the time of invasion; (11) the vitality of the pyogenic microbes varies in the different forms—some disappear very quickly, others retain their vitality for almost indefinite periods; (12) suppuration may in every instance be regarded as due to the presence of bacteria.—*Brit. Med. Journal.*

The Bacillus of Leprosy

A telegram from Simla, dated June 12th, contains an important announcement, which points to a distinct advance in the bacteriology of leprosy, due to the researches of the members of the Leprosy Commission. It is to the effect that Drs. Rake and Buckmaster have succeeded in cultivating the bacillus in serum. They were assisted in their researches by Surgeon-Major Thomson.

Swine Fever.

Replying to a question by Mr. Fellowes in the House of Commons last week, Mr. Chaplin said resolutions had been received by the Board of Agriculture from several County Councils and other bodies respecting swine fever. In some of them it was urged that the disease should be dealt with in the same way as pleuro-pneumonia, while in others there were recommendations in favour of greater stringency than the measures at present employed. In the present state of public business it was impossible to introduce a bill dealing effectually with the question during this session in the same manner as pleuro-pneumonia was dealt with. Experience showed that anything short of an order absolutely closing all markets for the sale of swine would have no substantial effect in dealing with the disease, and, in view of the great inconvience and opposition such a measure would cause at the present season of the year, he doubted the expediency of adopting it.

Inoculation in Queensland.

It is a favourite theory with the opponents of the inoculation of cattle as a safeguard against pleuro-pneumonia that it is frequently the means of disseminating tuberculosis should the lymph be taken from a beast suffering from that disease as well as pleuro. This question is one of the greatest importance to the owners of large herds in the far north, and the Queensland Government have done well in taking steps to set the matter at rest. Dr. Hirschfeld and Mr. P. R. Gordon have—I learn from *The Queenslander*—been requested to make careful examination of an animal which had been inoculated with lymph from another suffering from both pleuro and tuberculosis. All careful cattle-owners. in securing lymph for inoculation, avoid taking it from a beast that is affected with tuberculosis. Nevertheless, it is a most important matter to decide, particularly to the purchasers of store cattle, if the disease of tuberculosis is likely to be transmitted when inoculating for pleuro. The result of this inquiry will be looked for with much interest by cattle-breeders in the north, as well as those in the southern colonies, who purchase store steers from Queensland for fattening.

Killed by a Horse Ball.

A young woman residing at Somerby, Grantham, committed suicide in a novel manner. She had been suffering from influenza, which brought her to a very low state. On the Tuesday night she asked for the carving knife to cut her throat. On Wednesday, when left to herself, she obtained from the cupboard a horse-ball and took it. Dr. H. Bennett Bailey was sent for, but on his arrival the poor woman was quite dead. With considerable difficulty the ball was taken from the woman's stomach, and was found to be one of the ordinary balls used as a medicine for horses, and composed principally of aloes. The ball measured 3 inches in length, 1 inch in width, and weighed 1½ oz.

COMMUNICATIONS, BOOKS, AND PAPERS RECEIVED:—Prof. F. Smith, Messrs. H. Kidd, H. J. Dawes, F. Raymond, J. R. Wellsby, J. B. Tutt, W. A. Dellagana.